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File: USPT

Jun 26, 2001

US-PAT-NO: 6252869

DOCUMENT-IDENTIFIER: US 6252869 B1

TITLE: Data network security system and method

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L6: Entry 1 of 1

File: USPT

Jun 26, 2001

US-PAT-NO: 6252869

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TITLE: Data network security system and method

DATE-ISSUED: June 26, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Silverman; David P.	Somerville	NJ	N/A	N/A

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
AT&T Corp.	New York	NY	N/A	N/A	02

APPL-NO: 8/ 580671

DATE FILED: December 29, 1995

INT-CL: [7] H04L 12/64

US-CL-ISSUED: 370/352

US-CL-CURRENT: 370/352

FIELD-OF-SEARCH: 379/90.01, 379/93.01, 379/93.02, 379/93.03, 379/93.05, 379/93.06, 379/93.07, 379/93.09, 379/93.1, 379/93.12, 379/93.15, 379/121, 379/130, 370/352, 370/353, 370/354, 370/355, 370/356, 348/12, 348/13, 455/31.3

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4996685</u>	February 1991	Farese et al.	370/58.1
<input type="checkbox"/> <u>5003584</u>	March 1991	Benyacar et al.	379/121
<input type="checkbox"/> <u>5148474</u>	September 1992	Haralambopoulos et al.	379/130
<input type="checkbox"/> <u>5151782</u>	September 1992	Ferraro	379/93.12
<input type="checkbox"/> <u>5187710</u>	February 1993	Chau et al.	379/114
<input type="checkbox"/> <u>5396537</u>	March 1995	Schwendeman	455/31.3
<input type="checkbox"/> <u>5504933</u>	April 1996	Saito	348/12
<input type="checkbox"/> <u>5625677</u>	April 1997	Friertag et al.	370/352
<input type="checkbox"/> <u>5642155</u>	June 1997	Cheng	348/13
<input type="checkbox"/> <u>5680399</u>	October 1997	Totzke et al.	348/13
<input type="checkbox"/> <u>5712907</u>	January 1998	Wegner et al.	N/A
<input type="checkbox"/> <u>5726984</u>	March 1998	Fubler et al.	N/A
<input type="checkbox"/> <u>5838682</u>	November 1998	Dekelbaum et al.	370/401
<input type="checkbox"/> <u>5995606</u>	November 1999	Civanlar et al.	370/352

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 701 349 A1	March 1996	EPX	
2283154A	April 1995	GBX	

ART-UNIT: 279

PRIMARY-EXAMINER: Vu; Huy D.

ABSTRACT:

A secure communication mechanism for communicating credit card or other sensitive information between a user terminal and a server which communicate over a data network (e.g., Internet). For secure or private communication of sensitive information over a data network, a telephone connection is established between the originating server to which the user is connected for access to the data network and the SP to which the sensitive information is directed. The method and system provide for a secure electronic commercial transaction between a user and a service provider which charges for information and/or services and/or goods, wherein sensitive information includes credit card information transmitted from the user to the service provider, and/or electronic information or services transmitted from the service provider to the user in exchange for payment received from the user.

36 Claims, 4 Drawing figures

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L6: Entry 1 of 1

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Jun 26, 2001

DOCUMENT-IDENTIFIER: US 6252869 B1

TITLE: Data network security system and method

BSPR:

Some providers of "non-electronically" delivered goods or services (e.g., goods delivered off-line; e.g., food, clothing, etc.) provide an option for avoiding sending sensitive information over the Internet by posting 800 telephone numbers that a user later calls off-line to pay for the goods or services which were ordered (but not paid for) over the Internet. This approach, however, is not only cumbersome, thus negating the appeal and purpose of virtual shopping and on-line purchasing of goods and services, but is also not suited as a payment method for goods and services (including information) which are delivered over the Internet (referred to hereinafter as "electronic goods"), and which are preferably delivered interactively in one session as part of a single transaction.

BSPR:

It may be understood that the lack of a secure transaction mechanism limits the further development of the Internet, the availability of service providers to users, and particularly the viability of smaller SPs. It is known that in addition to providing gateway access to the Internet and the thousands of small service providers around the world, large information service providers such as Prodigy, America Online and Compuserve provide their own information and interactive services. Users may also access the Internet and the thousands of smaller information service providers (ISPs) directly through smaller user-local Internet access providers. Generally, the large information service providers bill their customers on a time-usage basis after a financial payment relationship has been established, with the user/customer receiving a monthly bill which may include additional charges for usage of certain information and services and which is paid via the conventional postage system. Similarly, the smaller user-local Internet access providers usually also base their service charges to their subscribers for access to the Internet on a time-usage basis.

DEPR:

In FIG. 1, a single ISP 101 is shown connected to the Internet network 102. It should be appreciated, however, that a multitude of ISPs are connected to the Internet and are available for access to the multitude of users around the world having access to the Internet. It may also be appreciated that Internet network 102 schematically represents an interconnection of network nodes which include router and/or gateway servers, which may themselves include or be part of websites and/or ISPs. Similarly, ISP 101 may itself include Internet router and/or gateway servers. Connection between the ISP 101 and the Internet 102 is over T1 digital transmission facilities 103, or other high speed transmission lines. A user desiring access to the information and/or interactive services available over the Internet from ISP 101 may be an individual who accesses the Internet through his terminal 104. Terminal 104 can be connected to the Internet 102 over a POTS telephone connection 105 to the user's local exchange carrier (LEC) network 106 through a modem (not shown). From the LEC 106, connection is made to a user-local Internet access provider 107, which provides access to the Internet over T1 digital transmission facilities 108. Internet access provider 107 can dial a telephone number for establishing a call via LEC 106. Similarly, ISP 101 can dial a telephone number for establishing a call via LEC 117.

DEPR:

More generally, preferably the server that will first send credit card or other sensitive or valuable information should not provide the phone number to the

other server which would place a call to that phone number, in order to avoid such disguised interception by an eavesdropper who need not provide any payment or other sensitive or valuable information to the called server before receiving payment or other sensitive or valuable information from the called server (even if a protocol required the calling party to provide some confirmation or identification information to the called party, the eavesdropper likely will have intercepted or accessed this confirmation or identification information).

DEPR:

In addition, although the present invention has been described hereinabove primarily in connection with the payment for information and/or interactive services of the type generally available to a user on the Internet or other data network, the present invention could readily be applied to the provision to the user of any type of information and/or services to a user on a first connection over a network of any type, with billing being effected for that information and/or services on a second connection through the telephone network. Thus, the present invention could also be used for teleconferencing services, video services, TV services provided by cable and/or broadcast mediums, and interactive services such as games, bulletin boards and chat mediums. It is to be understood that the term "information and/or interactive services" is to include all of these types of information and services, and all other types not specifically mentioned. The network over which the information and/or interactive services can be provided can be a wired or wireless data network, or a wired or wireless analog network. The signals transmitted on the wired network can be electrical or optical in nature. Also, while the hereinabove embodiment has been described with reference to a telephone call being placed over an IXC network, the telephone call may be established within an LEC without special handling by IXC, where the ISP and Internet access provider are connected to the same LEC.

CLPR:

28. A method for communicating sensitive information from a first internet service provider (ISP) server to a second ISP server, where the first ISP server and the second ISP server are connected to each other by means of a primary connection over a packet network, said method comprising the steps of:

CLPV:

While maintaining said primary connection, establishing a connection between said first ISP server and said second ISP server that is more secure than said primary connection; and